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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/848,743 | 05/03/2001 | Jon Weil | 476-2001 | 8046 |

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| EXAMINER | |
|---|---|
| SALAD, ABDULLAHI ELMI | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2157 | |

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/848,743 | WEIL ET AL. | |
| | Examiner | Art Unit | |
| | Salad E. Abdullahi | 2157 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *15 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

**Response**

1. The Amendment filed on 8/15/2005 has been received and made of record.

2. Applicant's argument with respect to claims 1-28 are persuasive but are persuasive for the following reason(s).

A) Applicant alleges there is no mention in Anderson of removing adjacent **hops** which are adjacent to the **original hops.**

B) Neither Jardetsky nor Anderson show the claim feature of removing fewer adjacencies and retrying the path computation **to obtain the weaker protection when there is no path available which avoids all the adjacencies.**

In response to applicant's argument with respect A and B, that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., see above **bolded** words) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, Anderson discloses a fault recovery mechanism adjacencies are established between respective pairs of routers or nodes including calculating recovery path and if no path is available by removing selected one of routes from the topology and repeating said path computation (see paragraph 0028 and 0111). Furthermore, Anderson discloses Upon detecting a failure of the primary path 110, Node A 102 switches some or all of the traffic from the primary path 110 to the recovery path 112. This typically involves inactivating the primary path 110 and activating the recovery path

112. This can be accomplished, for example, by removing the primary path from the forwarding table, blocking the primary path in the forwarding table, or marking the recovery path as a higher priority path than the primary path in the forwarding table(see paragraph 0049).

As per applicant's response with respect to claims 1, 15, 16, 17, 18, 19 and 21 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention because the claims contain the word "removing fewer". Examiner has withdrawn that rejection but would like to suggest: "removing fewer than the selected adjacencies" to make consist with selected adjacencies.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-6, and 8-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jardetzky et al. U.S. Patent No. 6,392,989[hereinafter Jardetzky] in view of Anderson et al., U. S. Patent Application Publication No. 2002/0004843[hereinafter Anderson.

As per claims 1, 17 and 21 Jardetzky discloses a method of fault recovery in a multi-layer communications network having a transport layer topology and an overlay topology, in which adjacencies are defined between a plurality of network nodes, the method comprising, for each adjacency for which a recovery path is to be determined, modifying the overlay topology by removal of selected adjacencies attempting computation of a path (see col. 2, lines 54-65, col. 4, lines 36-67 and col. 9, lines 26-35).

Jardetsky is silent regarding: and if no path is available removing fewer selected adjacencies from the overlay topology and repeating said path computation.

Anderson discloses a fault recovery mechanism including calculating recovery path and if no path is available removing fewer (i.e., selected one) of adjacencies from the overlay topology and repeating said path computation (see paragraph 0048 and 0078).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Anderson to the system of Jardetsky, thus enabling to quickly find a recovery path.

As per claim 2, Anderson discloses the method as claimed in claim 1, wherein said adjacencies are selected from a knowledge of the transport layer topology (see paragraph 0078).

As per claim 3, Jardetzky discloses a method of calculating a protection path for traffic carried on a main path in a multilayer communications network having a lower transport layer and an upper layer incorporating a plurality of routers, and in which adjacencies are defined between respective pairs of routers, the method comprising the steps of;
defining a model of the network (see fig. 3b and col. 6, lines 13-27);
defining in said model a hierarchy of protection levels, each said protection level being characterized by a respective set of broken adjacencies in said model (see col. 5, lines 6-52);
attempting to calculate a recovery path for a selected protection level in said hierarchy (see figs. 3A and 3B and col. 5, lines 6-52).
Jardetsky is silent regarding: if no said path is available, repeating said calculation attempt for successive further protection levels in said hierarchy until a protection path is identified.
Anderson discloses a fault recovery mechanism including calculating recovery path and if no said path is available, repeating said calculation attempt for successive further protection levels in said hierarchy until a protection path is identified (see paragraph 0048 and 0078). Therefore, it would have been obvious to one having ordinary skill in

the art at the time of the invention to incorporate the teaching of Anderson to the system of Jardetsky, thus enabling to quickly find a recovery path.

As per claim 4, Jardetzky discloses a method of calculating a protection path for traffic carried on a main path in a multi-layer communications network comprising a lower transport layer and an upper overlay incorporating a plurality of routers, there being a plurality of adjacencies defined between respective pairs of routers, wherein the method comprises the steps of:

defining a software model of the overlay of said network (see col. 6, lines 13-27);

defining in said model a hierarchy of protection levels for said main path, each said protection level being characterized by a respective set of one or more broken adjacencies in said model (see col. 6, lines 13-27);

selecting one said protection level and calculating a protection path avoiding the broken adjacencies associated with that protection level (see col. 5, lines 6-52);

determining whether the calculated protection path is available in the network(see col. 5, lines 6-52).

Jardetsky is silent regarding: if said calculated path is not available in the network, repeating said path calculation and determining steps for one or more further selected protection levels

Anderson discloses a fault recovery mechanism including calculating recovery path and if said calculated path is not available in the network, repeating said path calculation and determining steps for one or more further selected protection levels (see paragraph

0048 and 0078). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the teaching of Anderson to the system of Jardetsky, thus enabling to quickly find a recovery path.

As per claim 5, Anderson discloses a method as claimed in claim 4, wherein said protection levels are selected in order of hierarchy (i.e., priority)(see paragraph 0043).

As per claim 6, Anderson discloses a method as claimed in claim 5, wherein said protection path is calculated via a next hop algorithm (see paragraph 0064).

As per claim 7, Anderson discloses the method as claimed in claim 6, wherein a protection level is selected according to a class of traffic carried on the path to be protected (see paragraph 0104).

As per claim 8, Anderson discloses the method as claimed in claim 7, wherein said network incorporates a transport layer comprising a plurality of switches interconnected by optical fiber paths (see paragraph 0049).

As per claim 9, Anderson discloses the method as claimed in claim 7, wherein the network model topology is defined by a first list of adjacencies representing the overlay topology, and a second list of paths, one for each adjacency (see paragraph 0113).

As per claim 10, Anderson discloses the method as claimed in claim 9, and further comprising editing the network model topology by selecting sequentially the adjacencies in the overlay topology, testing each adjacency against assumptions about what equipment has failed in light of a hypothesized IP layer adjacency loss indication, and, if the adjacency passes the test, removing it from the topology (see paragraph 0048 and 0078).

As per claim 11-12, Anderson discloses the method as claimed in claim 10, wherein said transport layer comprises a synchronous network (see paragraph 0039)

As per claim 13-14, Anderson discloses the method as claimed in claim 12, wherein said network is a multi-protocol label switched network (see paragraph 0040).

As per claims 15, 16, 8 and 19, the claims include features similar to those of claim 1, further reciting assuming a failure of plurality of network element (see Anderson paragraph 0087).

As per claim 20, Jardetzky discloses a network manager as claimed in claim 19, and embodied as software in machine-readable form on a storage medium (see col. 3, lines 57-58).

As per claim 22-23, Anderson discloses a network as claimed in claim 21, wherein said protection system defines in said model a hierarchy of protection Levels for said main path each said protection level being characterized by a respective set of one or more broken adjacencies in said model (see paragraph 0043)).

As per claim 24, Anderson discloses a network as claimed in claim 23, wherein said protection path is calculated via a next hop algorithm (see paragraph 0064).

As per claim 25, Anderson discloses Anderson discloses network as claimed in claim 24, and incorporating a transport Layer comprising a plurality of switches interconnected by optical fiber paths (see paragraph 0049).

As per claim 26-27, Anderson discloses layer comprises a synchronous network (see paragraph 0039)

As per claim 28, Anderson discloses a network as claimed in claim 27, and comprising a multi-protocol label switched network (see paragraph 0040).

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

## Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salad E Abdullahi whose telephone number is 571-272-4009. The examiner can normally be reached on 8:30 - 5:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is **571-373-8300**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abdullahi Salad
Examiner AU 2157
10/27/2005